

**ABSTRACT OF THE DISCLOSURE**

The present invention is related to a method and apparatus for managing memory in a network switch, wherein the memory includes the steps of providing a memory, wherein the memory includes a plurality of memory locations configured to store data therein and providing a memory address pool having a plurality of available memory addresses arranged therein, wherein each of the plurality of memory addresses corresponds to a specific memory location. The method further includes the steps of providing a memory address pointer, wherein the memory address pointer indicates a next available memory address in the memory address pool, and reading available memory addresses from the memory address pool using a last in first out operation. The method also includes writing released memory addresses into the memory address pool, adjusting a position of the memory address pointer upon a read or a write operation from the memory address pool.